

ABSTRACT OF THE DISCLOSURE

The invention relates to methods of stabilizing glycosaminoglycans in a biological tissue (e.g. a bioprosthetic implant) in conjunction with cross-linking of protein in the tissue. The methods of the invention improve the mechanical integrity of the device and improves its stability *in vivo*. The invention also includes biological tissues having stabilized glycosaminoglycans and cross-linked proteins and kits for preparing such tissues.